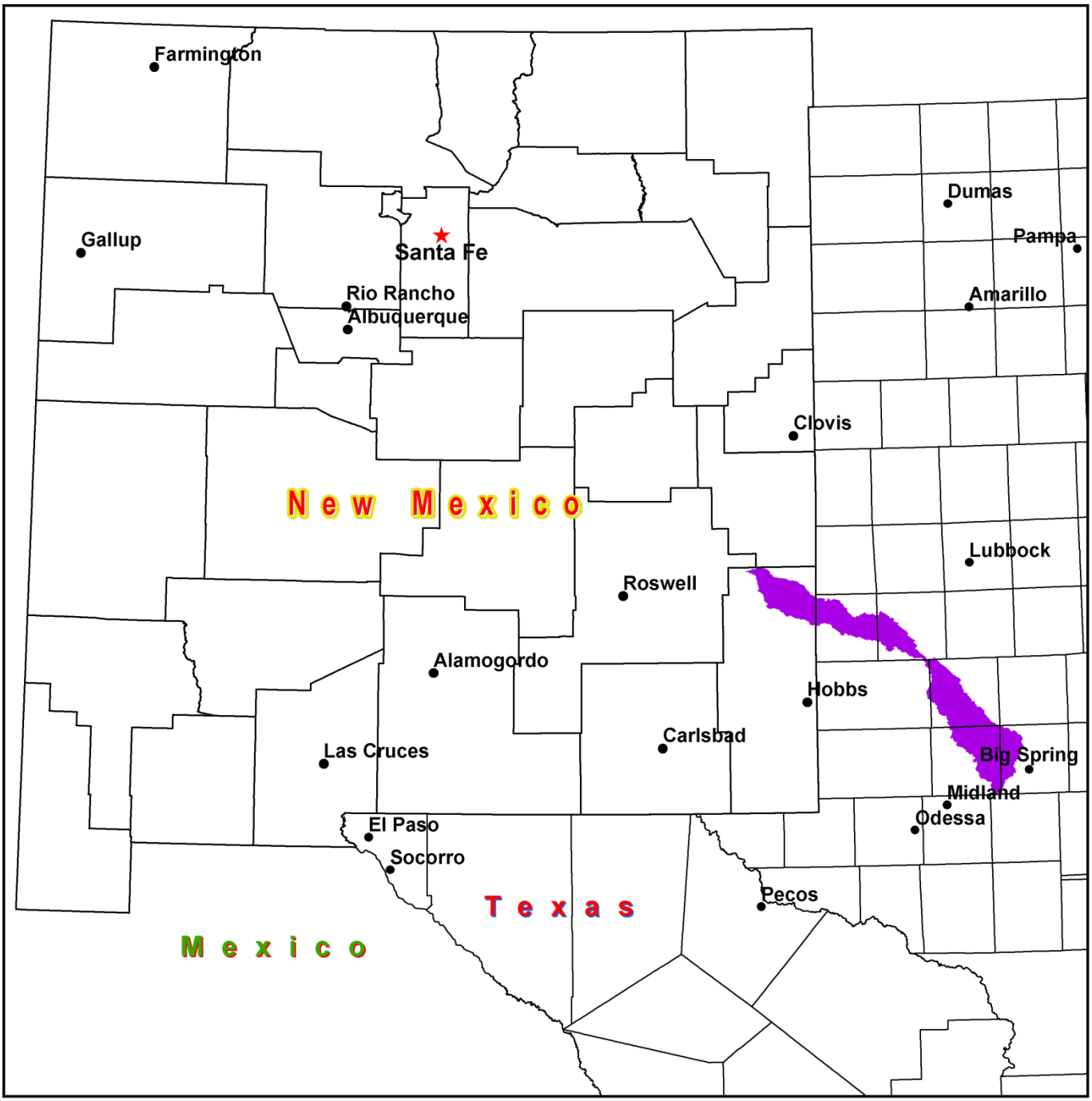
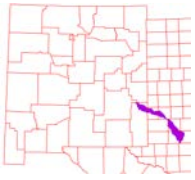
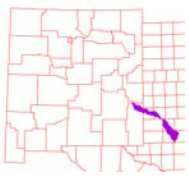


Rapid **W**atershed **A**ssessment

Sulphur Springs Draw Watershed





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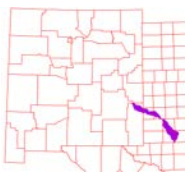

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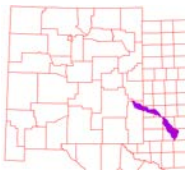


Overview

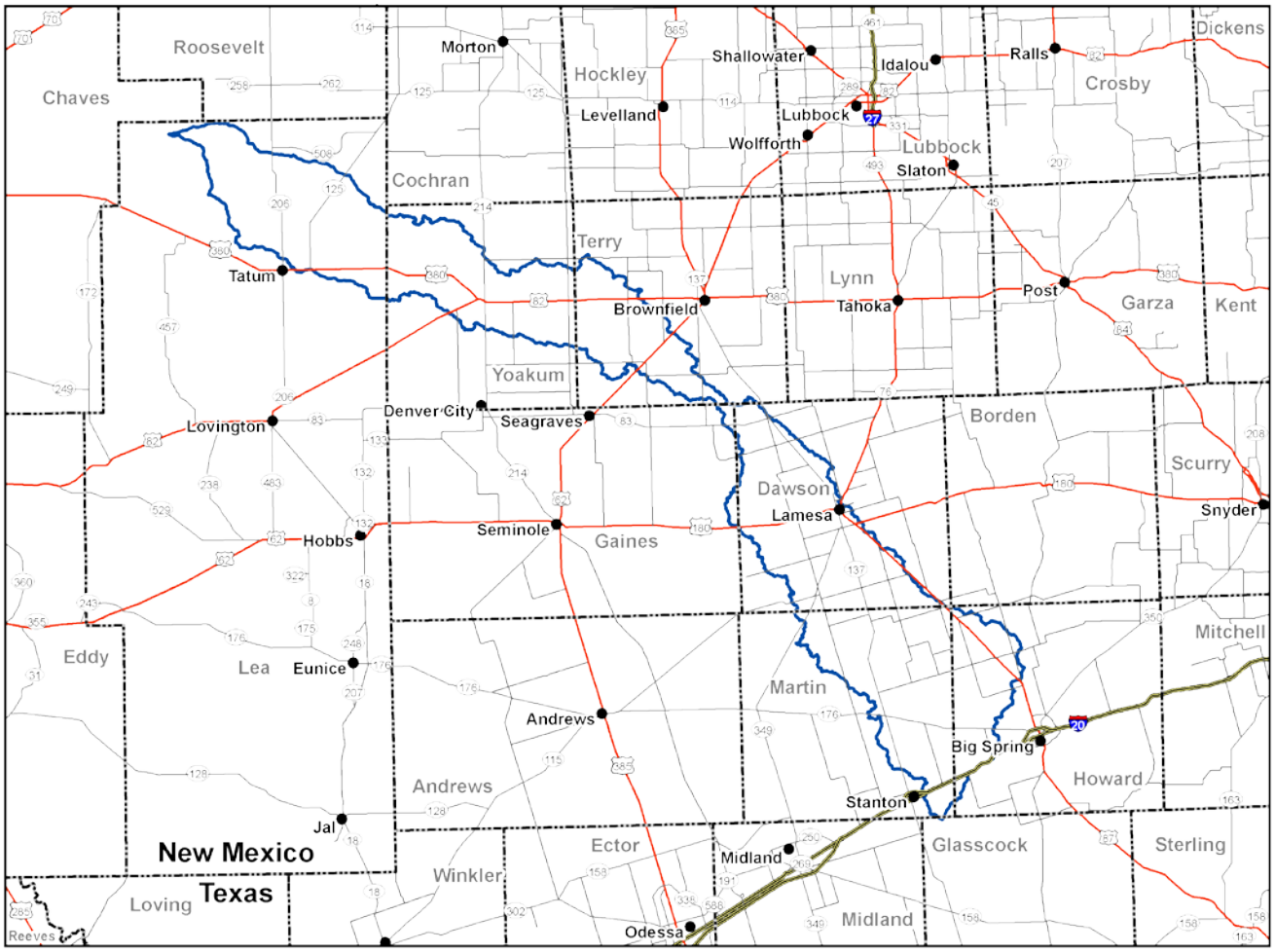
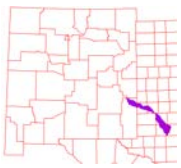


Figure 1. Sulphur Springs Draw Watershed Overview.

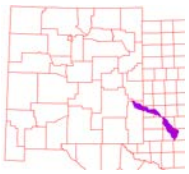


Overview

The Sulphur Springs Draw Watershed is located in extreme eastern New Mexico and in the northwest central part of Texas. It covers 1,206,569 total acres (4,883 sq. km). Portions of the Sulphur Springs Draw Watershed are in Lea county, New Mexico and Borden, Dawson, Gaines, Glasscock, Howard, Martin, Terry, and Yoakum counties in Texas. Table 1 summarizes the distribution of the Sulphur Springs Draw Watershed.

County	County Acres Total	Acres in HUC	% of HUC in County	% of County in HUC
Lea , NM	2,811,518	242,995	20	9
Borden, TX	581,134	6	< 1	< 1
Dawson, TX	578,024	272,450	23	47
Gaines, TX	962,328	8,892	1	1
Glasscock, TX	577,651	90	< 1	< 1
Howard, TX	579,869	112,578	9	19
Martin, TX	586,759	243,208	20	41
Terry, TX	570,365	131,787	11	23
Yoakum, TX	512,261	194,689	16	38
Sum (∑)	--	1,206,569	100	--

Table 1. Sulphur Springs Draw Watershed acreage distribution.



Physical Setting

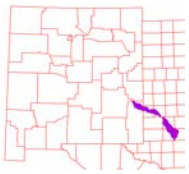
Geology:

The HUC has a northwest boundary near the junction of U.S. Route 380 and Siminola Valley road northeast of Tatum in Lea County. The northern boundary proceeds eastward just north of Tatum; crosses the Texas-New Mexico border near County Road 100 in Yoakum County; crosses State Route 214 north of Plains; crosses U.S. Route 82 and 380 at the junction with County Road 355; turns southeastward just south of Brownfield and passes near the junction of Ranch Road 1076 and County Road 525; passes through Welch and Lamesa; passes through the junction of Farm to Market Roads 178 and 828; passes through the intersection of Soash Road and County Road 245; turns southward at Ranch Road 1584; and proceeds to the intersection of Interstate 20 and Sulphur Springs Draw downstream of Natural Dam Lake. The southern boundary passes through the intersection of County Road 149 and Sartin Road south of Tatum; continues eastward to the intersection of Whitmore and Simpson Roads; to the intersection of Koch and Powell Roads; passes into Texas and the intersection of U.S. Route 82 and County Road 215 in Yoakum County; passes just north of Sligo and south of Wellman; passes through the intersection of County Road 132 and 143; heads southeastward to Mungerville; heads southward to the intersection of State Route 115 and County road B just west of Patricia; passes between Tarzan and Grady; turns eastward just north of the Stanton Municipal Airport; and proceeds to the intersection of Interstate 20 and Sulphur Springs Draw downstream of Natural Dam Lake.

The watershed consists of the Tertiary Ogallala formation of the Llano Estacado. Quaternary eolian and piedmont deposits start near the Texas-New Mexico border. Most of the drainages flow eastward. There are many ponds on the surface that exist after rains.

Resource concerns are high sediment erosion. In addition the lowering of valleys by river incision is a continuing process. Rivers respond by aggrading during climates that promote large sediment yield and large, stable discharges; and incise during climates that produce flashy flows and reduce the sediment supply.

Groundwater quality and quantity is a concern. Depth to groundwater is a concern if the shallow unconfined aquifer does not produce enough water for the resource or increased population demands are ‘mining’ the water. Groundwater quality ranges from good to poor for livestock or crops.



Soils:

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

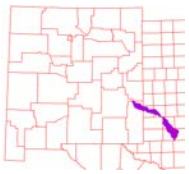
The soils in the Sulphur Springs Draw Watershed are assigned to four groups (A, B, C, and D).


Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.


Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.


Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.


Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.



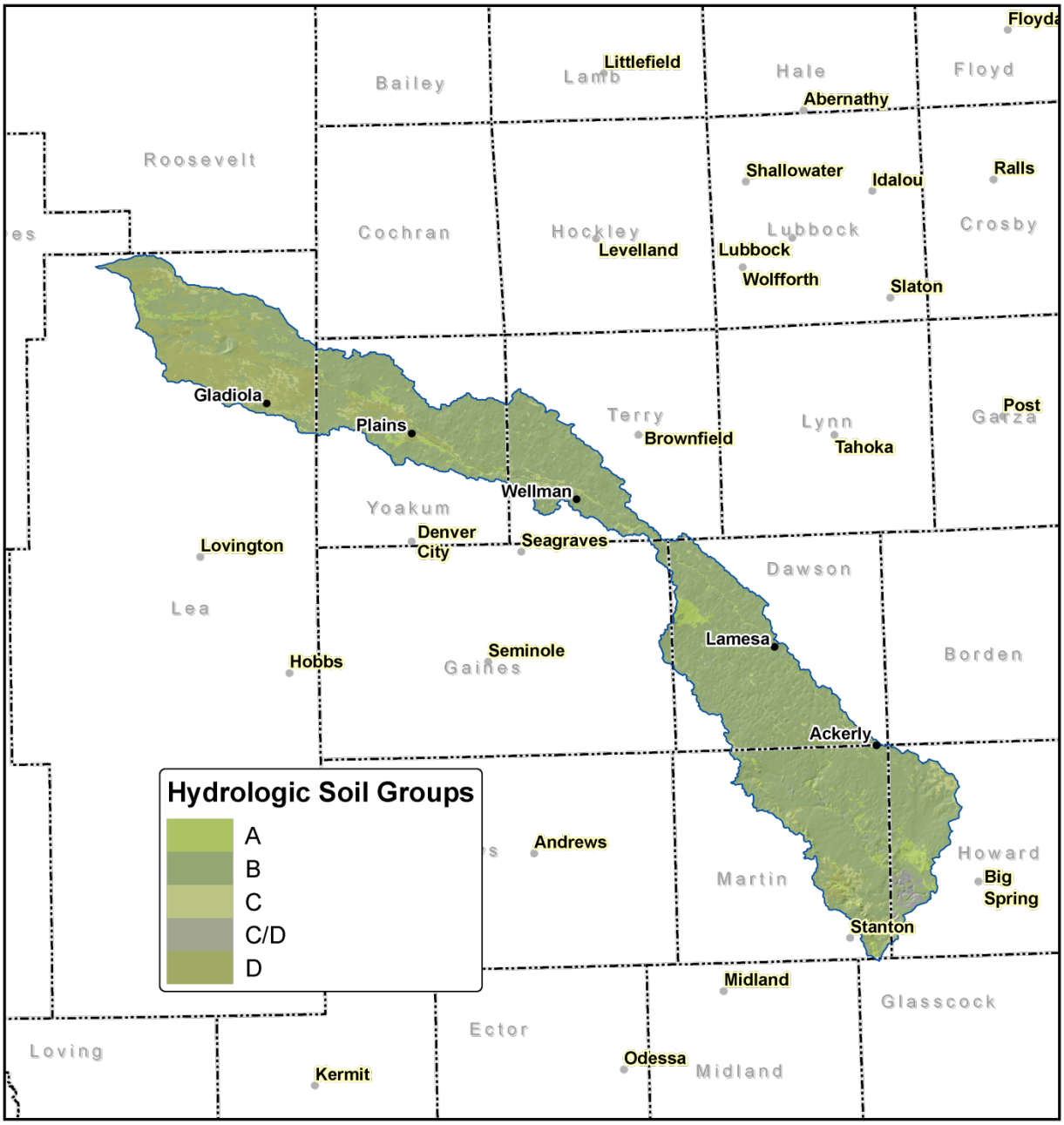
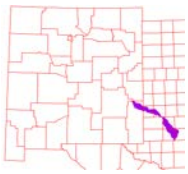


Figure 2. Sulphur Springs Draw Watershed Hydrologic Soil Groups.



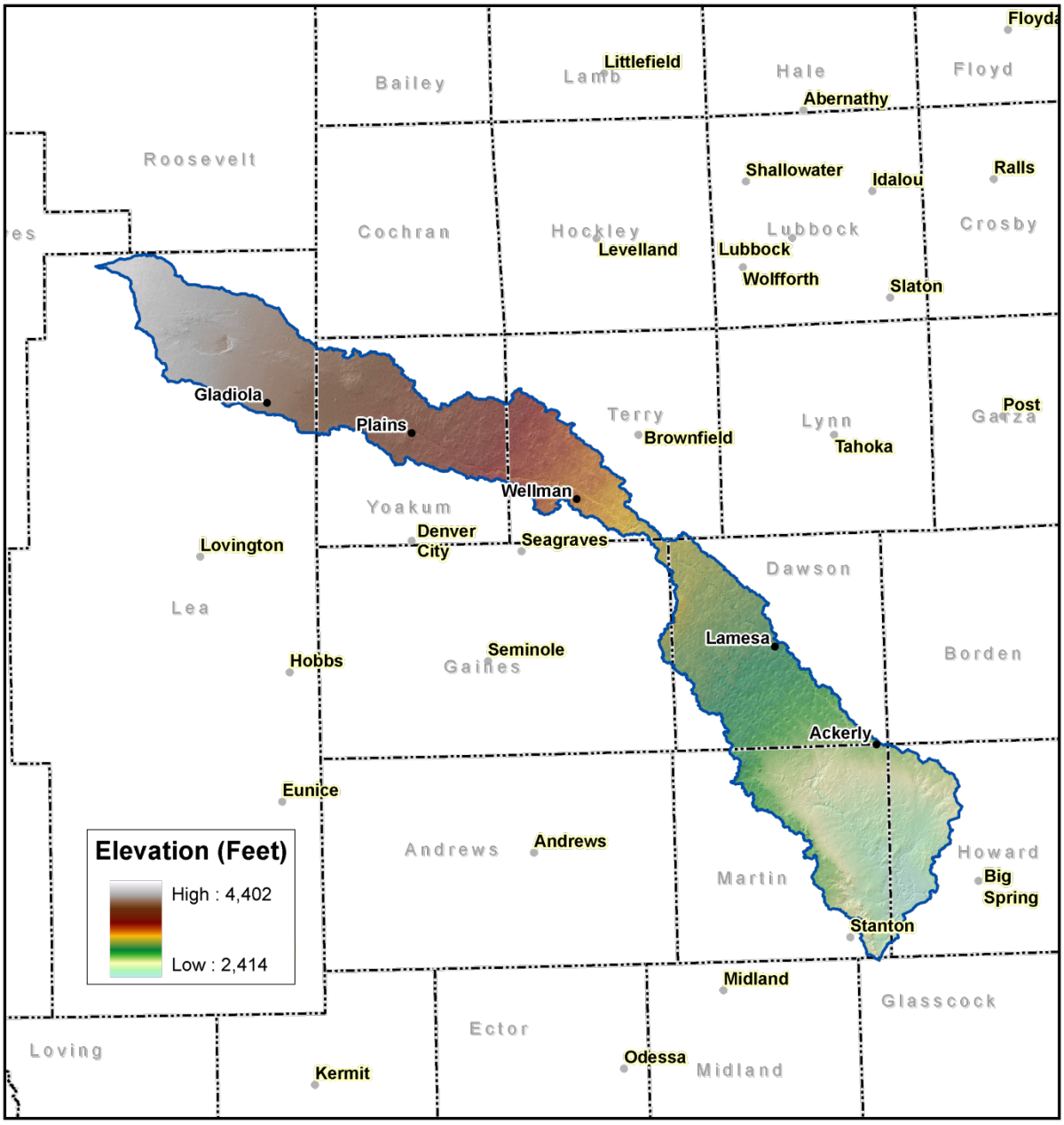
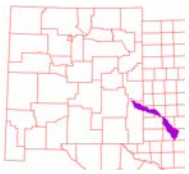


Figure 3. Sulphur Springs Draw Watershed Shaded Relief.



Precipitation [1]

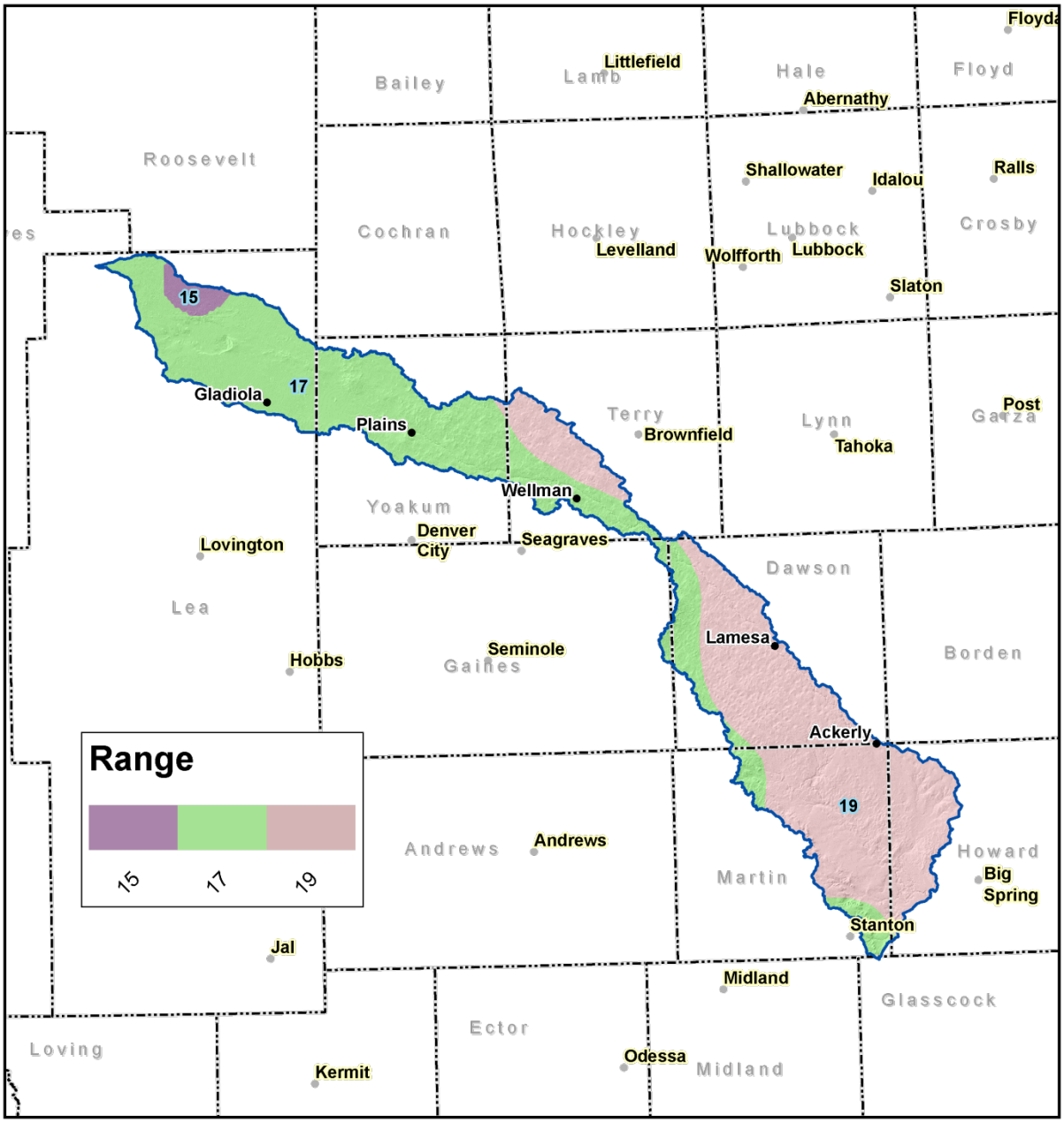
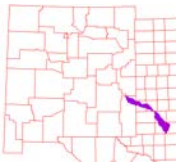


Figure 4. Sulphur Springs Draw Watershed Annual Precipitation.



Land Ownership [2]

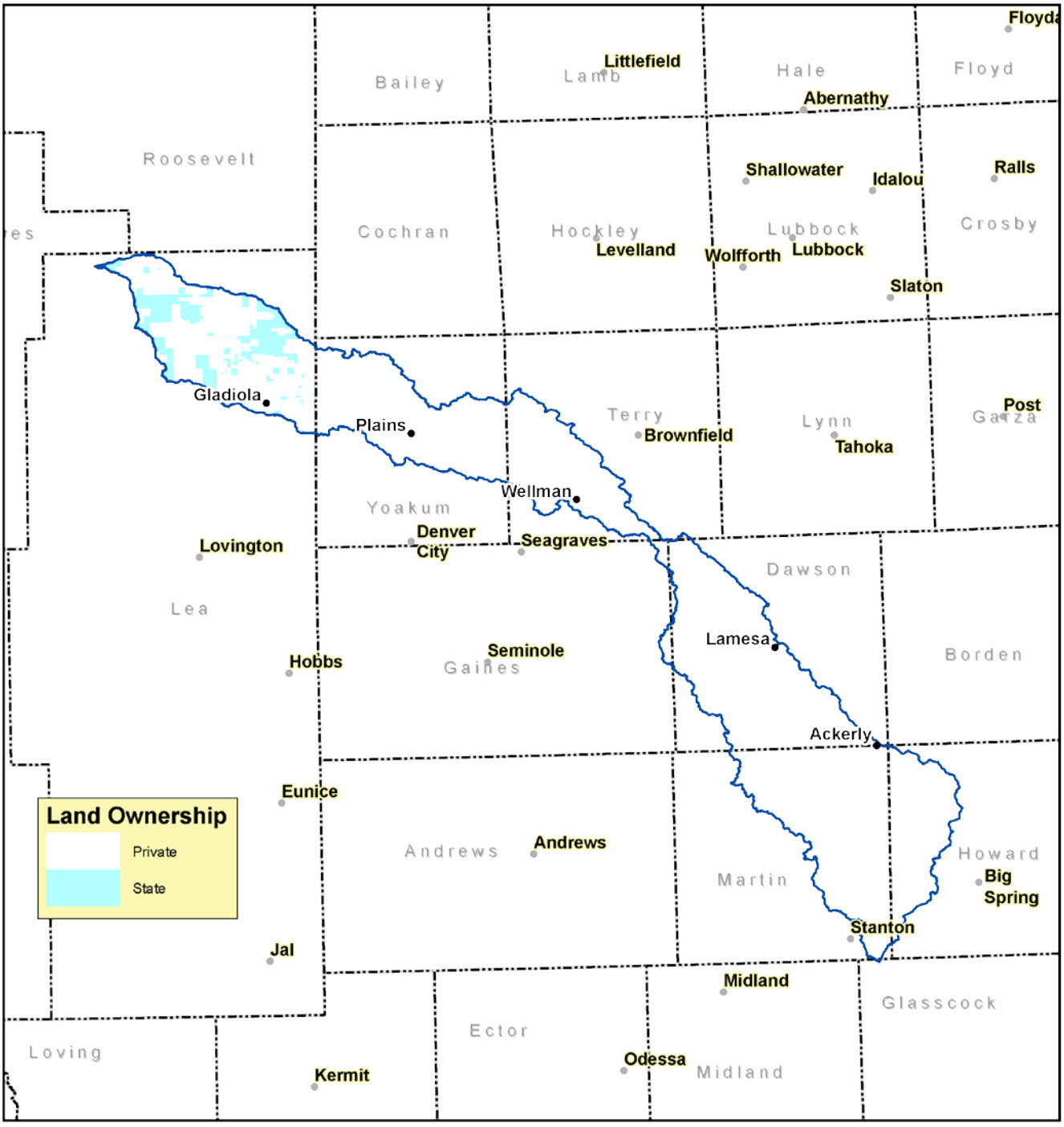
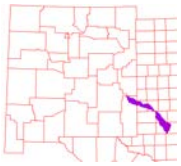


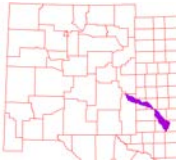
Figure 5. Sulphur Springs Draw Watershed Land Ownership.



Land Ownership

County	Private	State
Lea , NM	172,707	70,163
Borden, TX	6	
Dawson, TX	272,450	
Gaines, TX	8,892	
Glasscock, TX	90	
Howard, TX	112,578	
Martin, TX	243,208	
Terry, TX	131,787	
Yoakum, TX	194,675	14
Watershed (∑)	1,136,392	70,177
% Watershed	94	6

Table 2. Land Ownership in the Sulphur Springs Draw Watershed.



Land Use / Land Cover [3,4]

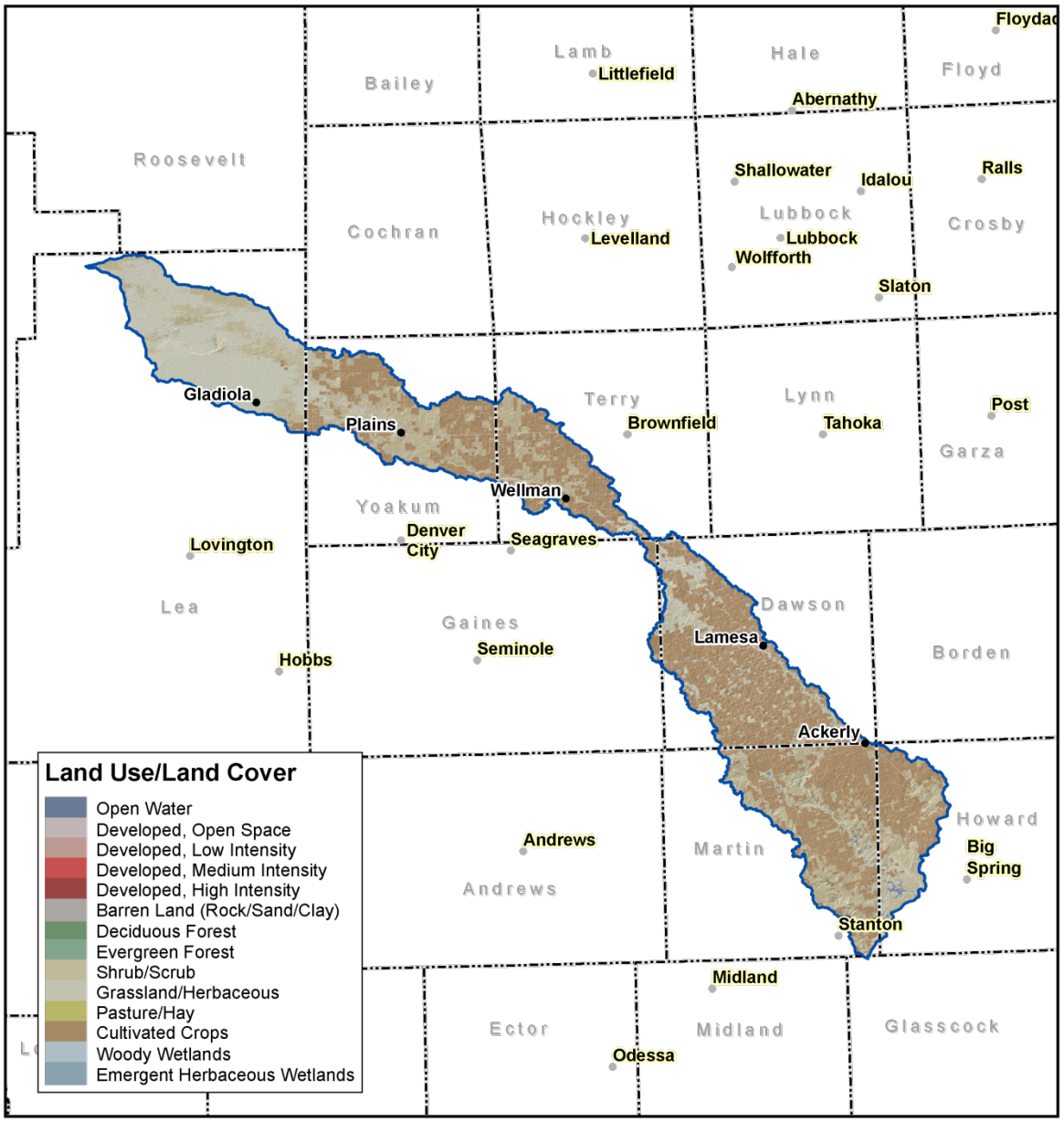
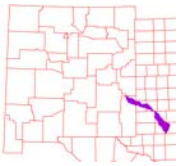


Figure 6. Subset of the National Land Cover Dataset in the Sulphur Springs Draw Watershed.

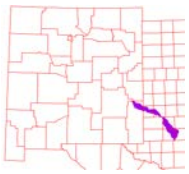


Land Use / Land Cover

The U.S. Geological Survey (USGS) produced the National Land Cover Dataset (NLCD) as part of a cooperative project between the USGS and the U.S. Environmental Protection Agency (USEPA). The goal of this project was to produce a consistent land cover data layer for the conterminous United States. The Multiresolution Land Characterization (MRLC) Consortium collected the data used to compile the NLCD. The MRLC Consortium is a partnership of Federal agencies that produce or use land cover data; partners include the UNITED STATES GEOLOGICAL SURVEY (National Mapping, Biological Resources, and Water Resources Divisions), USEPA, the U.S. Forest Service, and the National Oceanic and Atmospheric Administration.

Land use/ Land Cover	Acres	% of Watershed
Cultivated Crops	566,071	47
Shrub/Scrub	308,267	26
Grassland/Herbaceous	265,857	22
Developed, Open Space	53,056	4
Developed, Low Intensity	2,861	< 1
Barren Land Rock/Sand/Clay	2,859	< 1
Open Water	2,745	< 1
Woody Wetlands	1,628	< 1
Emergent Herbaceous Wetlands	1,486	< 1
Deciduous Forest	1,257	< 1
Developed, Medium Intensity	288	< 1
Evergreen Forest	151	< 1
Developed, High Intensity	80	< 1
Mixed Forest	17	< 1

Table 3. Extent of NLCD classes in the Sulphur Springs Draw Watershed.



Land Use / Land Cover

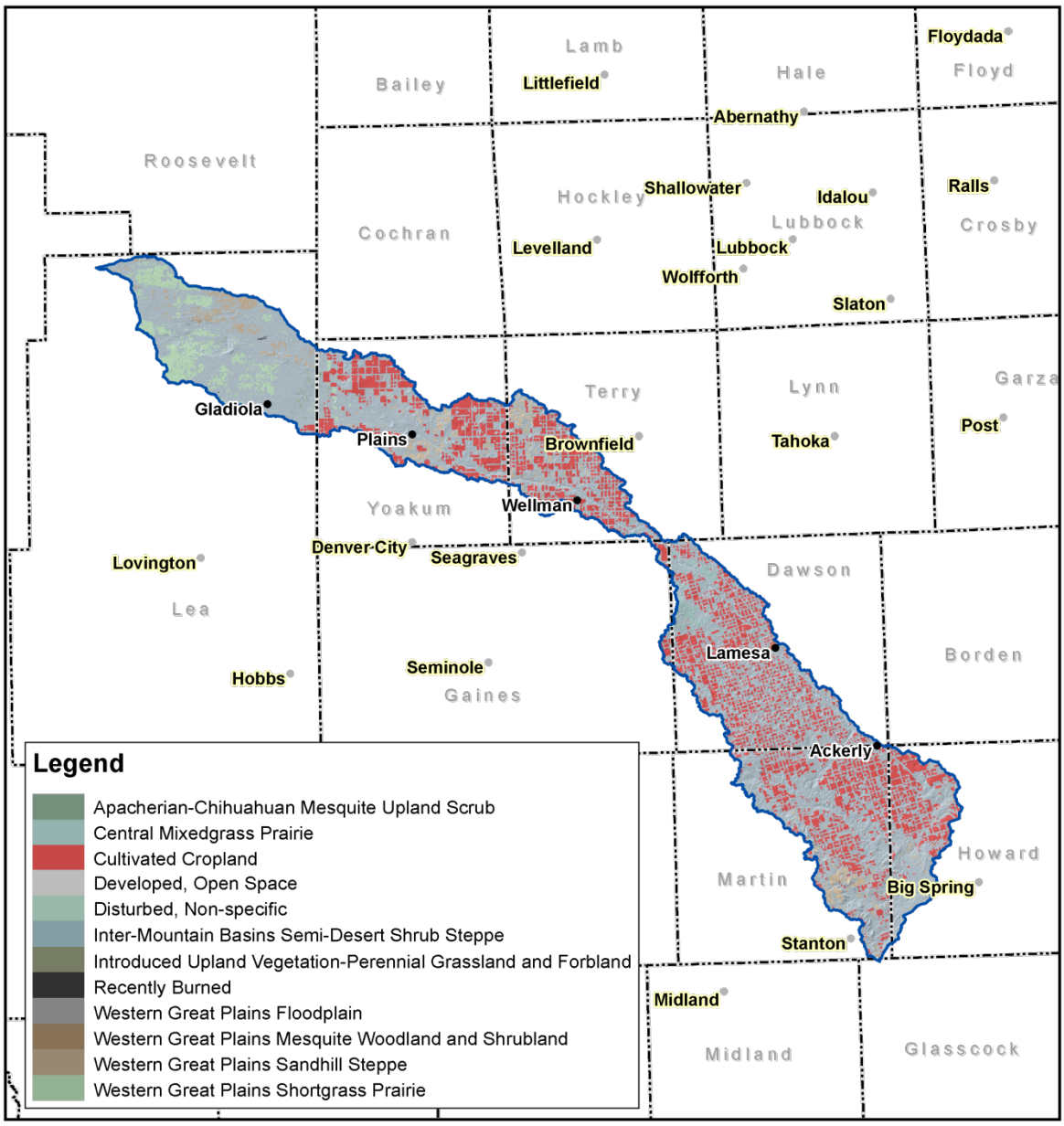
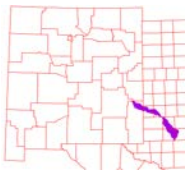


Figure 7. Subset of the SWREGAP over the Sulphur Springs Draw Watershed. The 12 dominant ecosystems are displayed in the legend.

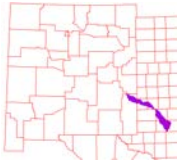


Land Use / Land Cover

The land cover mapping effort for the Southwest Region Gap Analysis Project was a coordinated multi-institution endeavor. This dataset was created for regional terrestrial biodiversity assessment. Additional objectives were to establish a coordinated mapping approach to create detailed, seamless maps of land cover, all native terrestrial vertebrate species, land stewardship, and management status, and to analyze this information to identify those biotic elements that are underrepresented on lands managed for their long term conservation.

ECOSYSTEM	Acres	% of Watershed
Cultivated Cropland	564,806	47
Western Great Plains Mesquite Woodland and Shrubland	207,942	17
Western Great Plains Shortgrass Prairie	149,102	12
Western Great Plains Sandhill Steppe	83,501	7
Central Mixedgrass Prairie	69,997	6
Apacherian-Chihuahuan Mesquite Upland Scrub	57,437	5
Developed, Open Space	36,612	3
Introduced Upland Vegetation-Perennial Grassland and Forbland	5,536	< 1
Recently Burned	5,398	< 1
Inter-Mountain Basins Semi-Desert Shrub Steppe	3,665	< 1
Disturbed, Non-specific	2,975	< 1
Western Great Plains Floodplain	2,833	< 1

Table 4. SW Region Gap analysis ecosystem acreages.



Hydrology [5,6,7,8,9,10]

The National Hydrography Dataset (NHD) is a comprehensive set of data that encodes information about naturally occurring and constructed bodies of water, paths through which water flows, and related entities. The NHD identifies 348 miles (560 km) of water courses in the Sulphur Springs Draw Watershed. The majority of these courses typically flow intermittently in summer months during periods associated with high intensity convective thunderstorms.

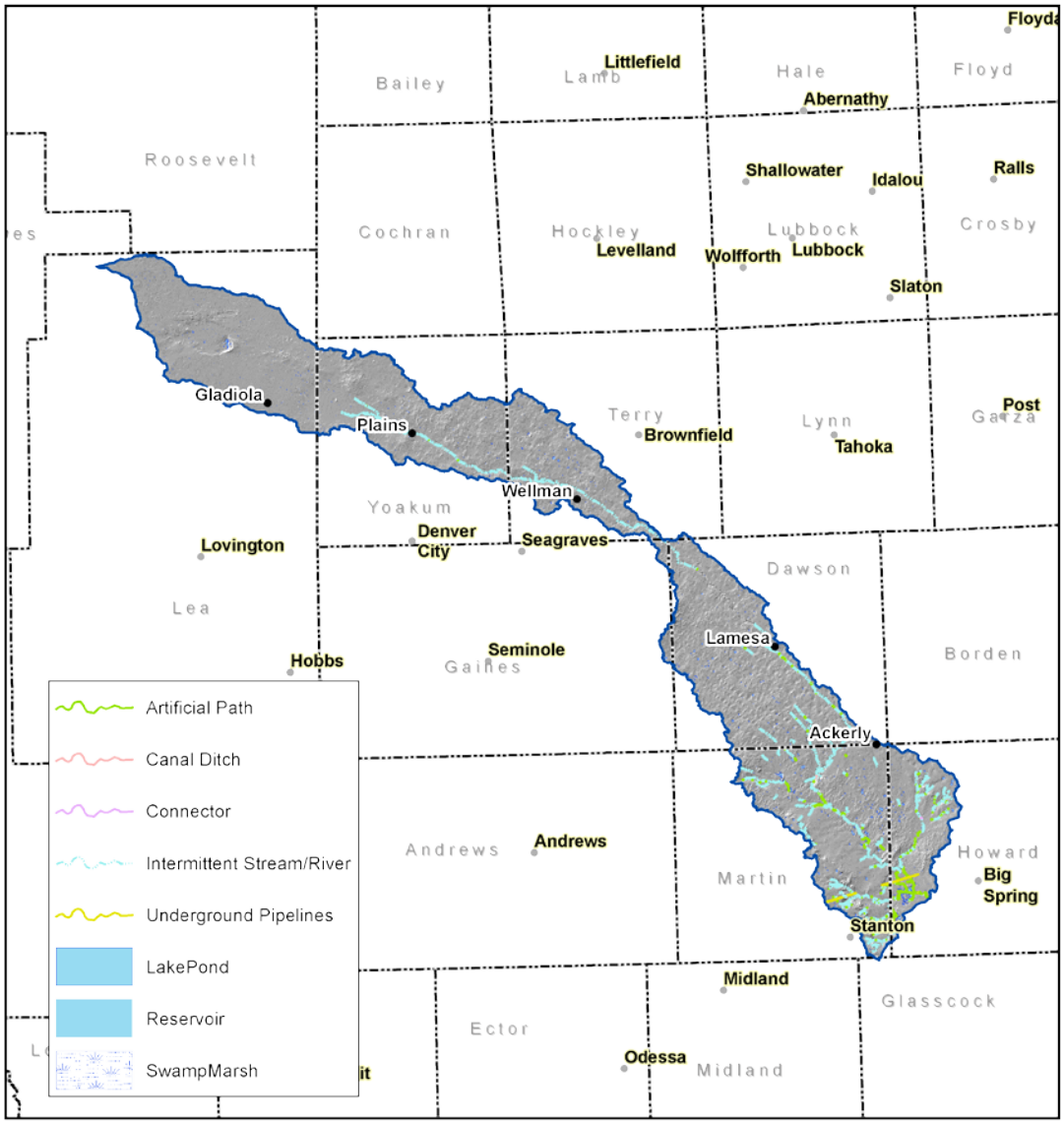
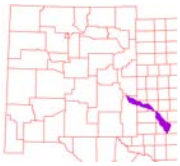
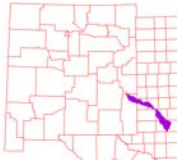


Figure 8. National Hydrolgic Dataset (NHD) of the Sulphur Springs Draw Watershed.



Water Course Type	Miles
Artificial Path	38
Canal/Ditch	1
Connector	1
Intermittent Stream/River	298
Underground Pipeline	10
Sum (∑)	348

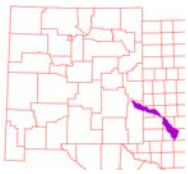
Table 5. NHD Water Course Type and Extents



Gauging Stations:

There is a one Gauging Station in the watershed. USGS Site 08123640 is near the SE corner of the watershed on the Natural Dam Salt Lake near Big Spring, TX. During the period 2002 – 2011, this site has had mean annual discharge of 2,447.31 cubic feet per second ranging from 2,447.23 (2004) to 2,447.43 (2002) cubic feet per second.

Figure 9. Gauging Stations in the Sulphur Springs Draw



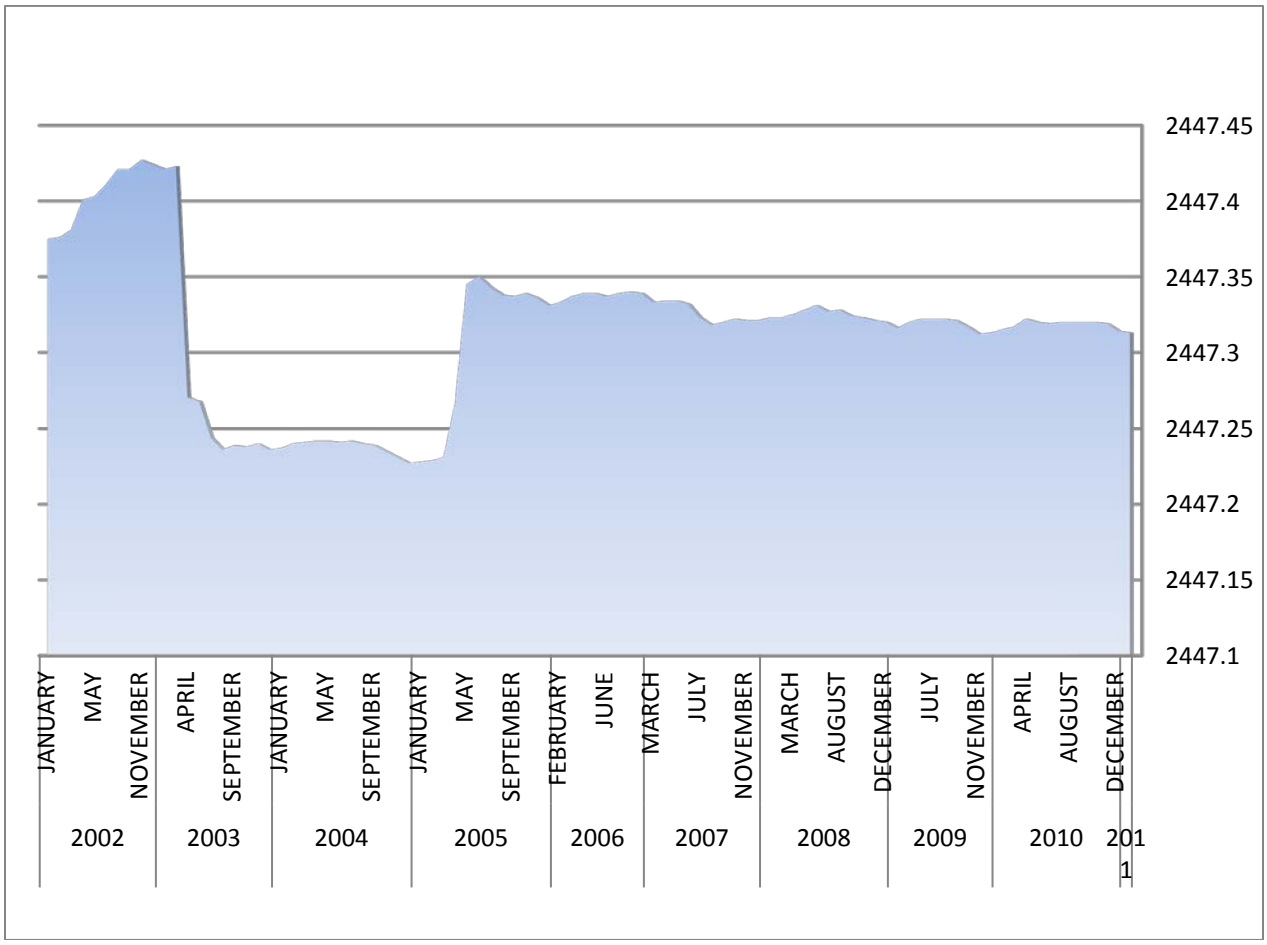
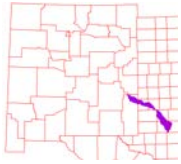


Figure 10. Monthly Average of Mean Daily Flow on the Natural Dam Salt Lake near Big Spring, TX. Period of Observation: 2002- 2011.



Hydrology

New Mexico Water Quality Control Commission (NMWQCC):

The New Mexico Water Quality Control Commission (NMWQCC) is the issuing agency of water quality standards for interstate and intrastate waters in New Mexico.

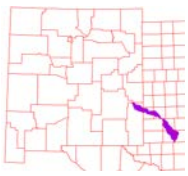
Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes, are required to develop lists of impaired waters. These are waters for which technology-based regulations and other required controls are not stringent enough to meet the water quality standards set by states. The law requires that states establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs), for these waters. A TMDL is a calculation of the maximum amount of a pollutant a water body can receive and still safely meet water quality standards.

There are no designated Impaired Surface Waters or water bodies for the New Mexico portion of the Sulphur Springs Draw Watershed.

Texas Commission on Environmental Quality (TCEQ):

The Texas Commission on Environmental Quality (TCEQ) is the issuing agency of water quality standards for interstate and intrastate waters in Texas.

There are no designated Impaired Surface Waters or water bodies for the Texas portion of the Sulphur Springs Draws watershed as of March 19, 2008.



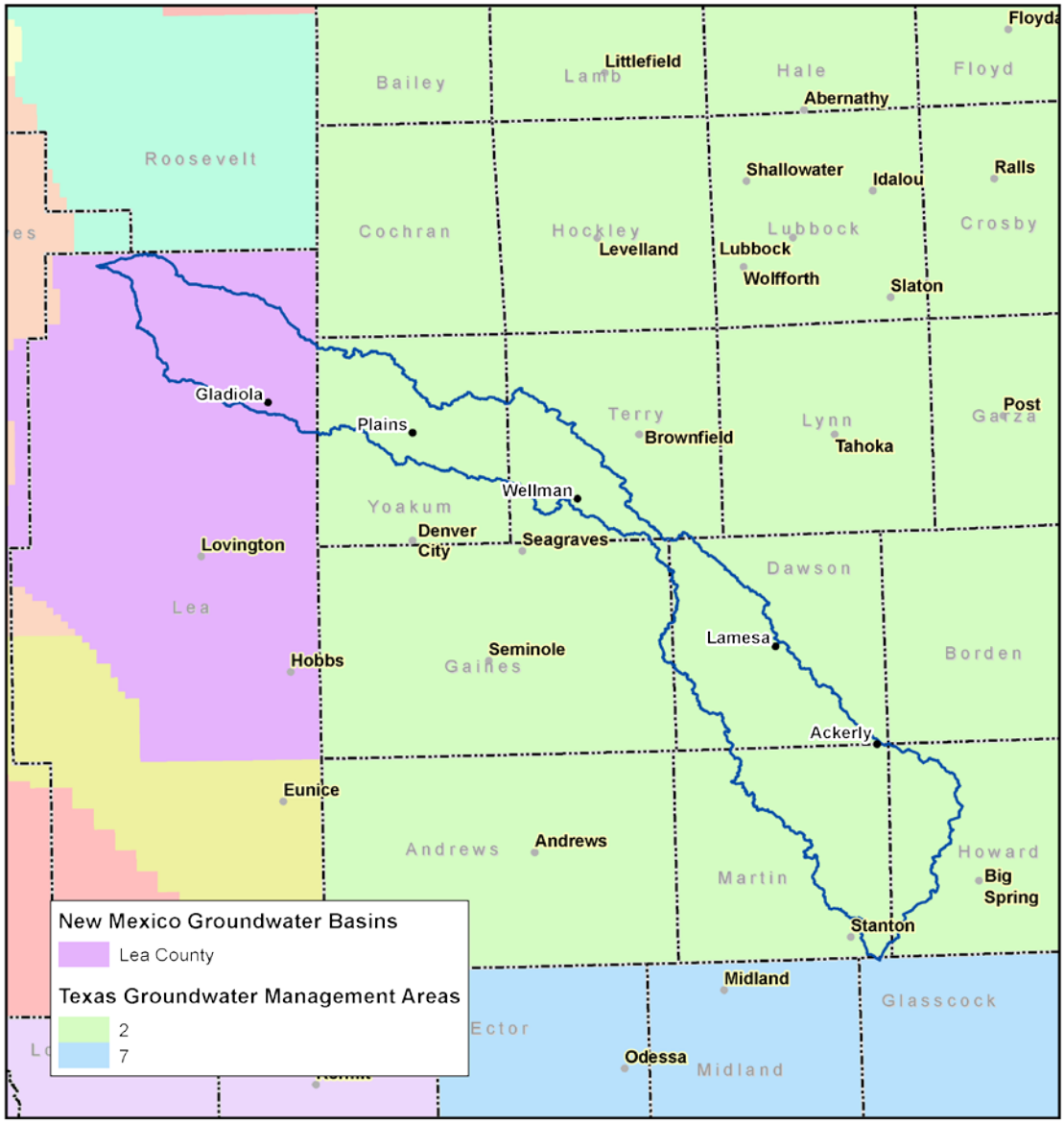
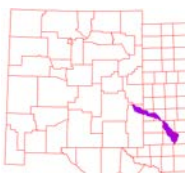


Figure 11. Declared Groundwater Basins of the Sulphur Springs Draw.

A declared groundwater basin is an area of the state proclaimed by the State Engineer to be underlain by a groundwater source having reasonably ascertainable boundaries. By such proclamation the State Engineer assumes jurisdiction over the appropriation and use of groundwater from the source. There are 3 declared groundwaters in the Sulphur Springs Draw Watershed: Lea County, GMA 2, and GMA 7.



Threatened and Endangered Species [11, 12]

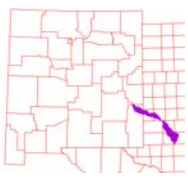
Endangered species are those that are at risk of extinction throughout all or a significant portion of its native range. A threatened species is one that is likely to become endangered in the foreseeable future. The New Mexico Natural Heritage and the Texas Parks & Wildlife Department programs track the status of threatened and endangered species which are listed on both federal and state lists. Table 6 lists those species which are currently listed and tracked in the Sulphur Springs Draw Watershed.

Common Name	Scientific Name	Tax. Class	Family	Federal Status	State Status
American Peregrine Falcon	*Falco peregrinus anatum*				T
Bald Eagle	*Haliaeetus leucocephalus*				T
Black-footed ferret	*Mustela nigripes*			LE	
Gray wolf	*Canis lupus*			LE	E
Interior Least Tern	*Sterna antillarum athalassos*			LE	E
Palo Duro mouse	*Peromyscus truei comanche*				T
Peregrine Falcon	*Falco peregrinus*				T
Sand Dune Lizard	*Sceloporus arenicolus*	Reptilia	Phrynosomatidae		E
Texas horned lizard	*Phrynosoma cornutum*				T
Whooping Crane	*Grus americana*			LE	E

Table 6. Threatened and Endangered Plant and Animal Species.

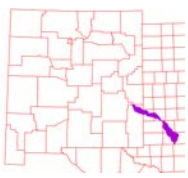
Invasive Species [13,14]

Invasive species are those which have been introduced into a region or ecosystem and have the ability to out-compete native species for resources (i.e. water, nutrients, sunlight, etc.) The Southwest Exotic Plant Mapping Program (SWEMP) is a collaborative effort between the United States Geological Survey and federal, tribal, state, county and non-government organization partners in the southwest which maintains ongoing efforts to compile and distribute regional data on the occurrence of non-native invasive plants in the southwestern United States. Within the Sulphur Springs Draw Watershed, the SWEMP and texasinvasives.org have identified 31 species of invasive plants (Table 7). Each of these species is defined as non-native by the USDA PLANTS database.



Scientific Name	Common Name
Zygophyllaceae (Caltrop Family)	African Rue
Asteraceae (Sunflower Family)	Musk Thistle
Asteraceae (Sunflower Family)	Yellow Starthistle
Brassicaceae (Mustard Family)	Flixweed
Poaceae (Grass Family)	Stinkgrass
Meliaceae (Mahoghany family)	Chinaberry
Fabaceae (Leguminosae)	Yellow sweetclover
Brassicaceae (Mustard Family)	London rocket
Poaceae (Grass Family)	Jointed Goatgrass
Brassicaceae (Mustard Family)	Sheperd's-Purse
Asteraceae (Sunflower Family)	Spiny Cocklebur
Malvaceae (Mallow family)	Velvetleaf
Fabaceae (Leguminosae)	Paradise Poinciana
Convolvulaceae (Bindweed family)	Field Bindweed
Poaceae (Grass Family)	Weeping Lovegrass
Chenopodiaceae (Goosefoot family)	Russian-Thistle
Poaceae (Grass Family)	Rescuegrass
Poaceae (Grass Family)	bermudagrass
Poaceae (Grass Family)	barnyardgrass
Poaceae (Grass Family)	goosegrass
Asteraceae (Sunflower Family)	western salsify
Asteraceae (Sunflower Family)	Malta starthistle
Geraniaceae (Cranesbill Family)	redstem filaree
Lamiaceae (Mint family)	white horehound
Fabaceae (Leguminosae)	California burclover
Caryophyllaceae (Pink Family)	hairypink
Poaceae (Grass Family)	annual bluegrass
Poaceae (Grass Family)	junglerice
Geraniaceae (Cranesbill Family)	redstem stork's bill
Zygophyllaceae (Caltrop Family)	puncturevine
Fabaceae (Leguminosae)(Pea Family)	small hop clover

Table 7. Invasive Species Recognized by the SWEMP and texasinvasives.org



Common Resource Areas[15]

A Common Resource Area (CRA) is defined as a geographical area where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) designation. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a Common Resource Area. Each Common Resource Area will have multiple Conservation System Guides associated with it. A Conservation System Guide associates, for a given CRA and land use, different components of Resource Management Systems and their individual effect on conserving soil and water resources.

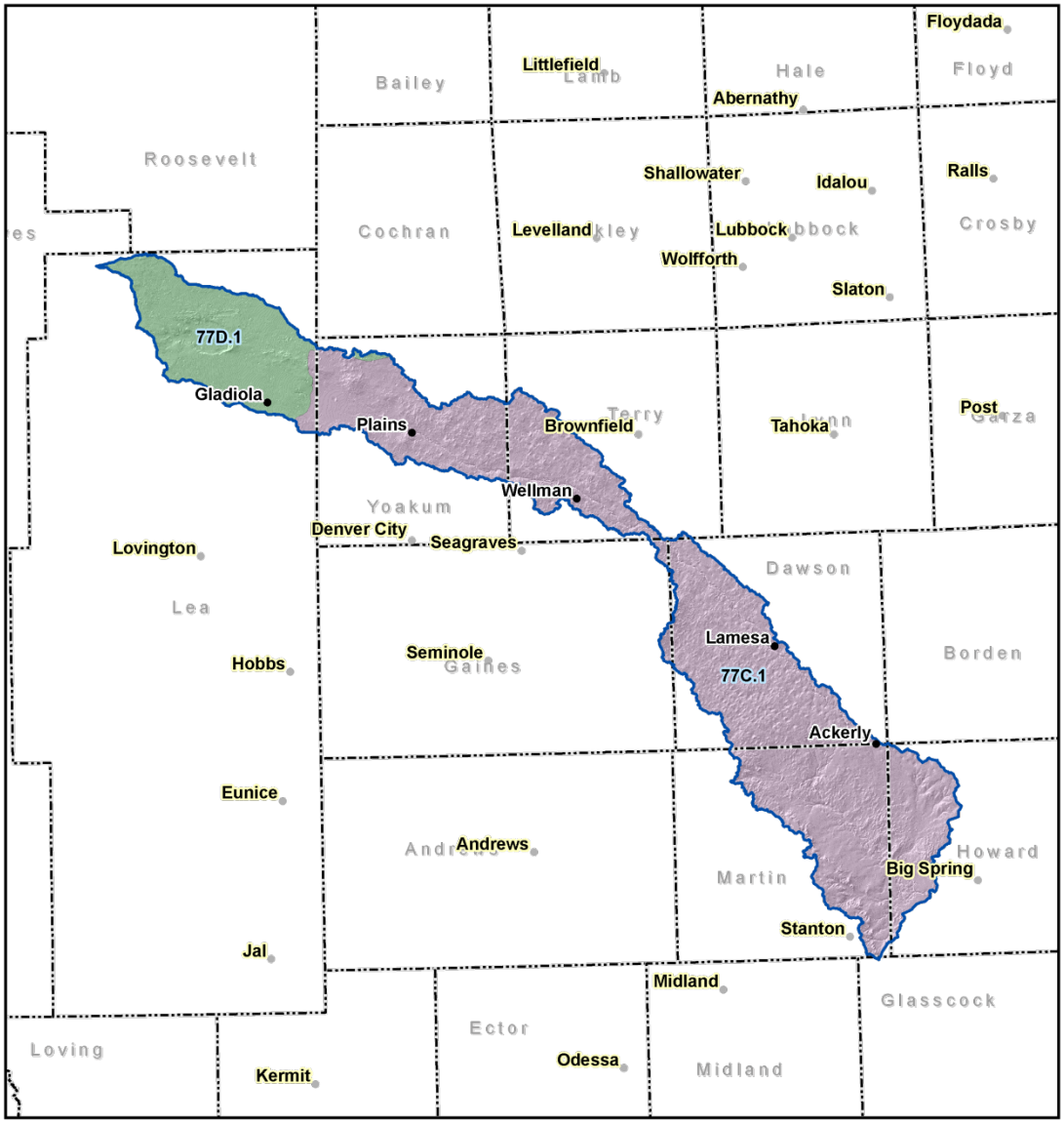
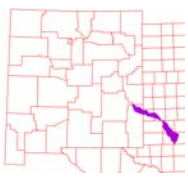


Figure 12. Common Resource Areas of the Sulphur Springs Draw Watershed.



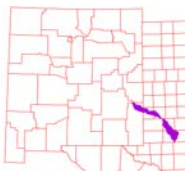
Common Resource Areas

77C.1 - High Plains, Cotton Belt

This unit is characterized by nearly level plains with numerous playa depressions, moderately sloping breaks along drainageways, and a steep escarpment along the eastern margin. Soils are generally deep with sandy or loamy surface textures and loamy subsoils. Soil temperature regime is thermic and soil moisture regime is ustic bordering on aridic. Current land use is dominantly cropland. Major crops are cotton and grain sorghum.

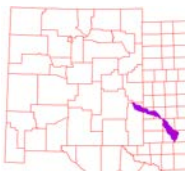
77D.1 - High Plains, Southwestern Part

This area is characterized by nearly level to gently undulating plains with scattered playa depressions. Soil temperature regime is thermic and soil moisture regime is aridic bordering on ustic. Sandy and loamy soils are generally well drained and range from shallow to deep and medium- to coarse-textured. Native vegetation is short- to mid-grasses and sandy sites support tall-grasses with sand shin oak and mesquite. Current land use is mainly rangeland, although irrigated cropland is expanding.

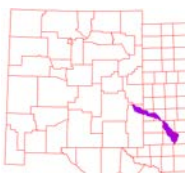


Conservation [16]

The USDA-Natural Resources Conservation Service (NRCS) focuses on the development and delivery of high quality products and services that enable people to be good stewards of our Nation's soil, water, and related natural related resources on non-Federal lands. The Natural Resources Conservation Service's conservation programs aid agricultural producers in their efforts to reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. Public benefits include enhanced natural resources that help sustain agricultural productivity and environmental quality while supporting continued economic development, recreation, and scenic beauty.

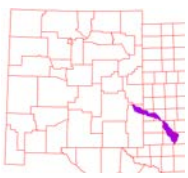


Conservation Practice	2006		2007		2008		2009		2010		TOTAL	
	#	Acres	#	Acres	#	Acres	#	Acres	#	Acres	#	Acres
Access Control									1	29	1	29
Brush Management	3	2,398	4	8,899	4	13,830	5	15,839	3	4,170	19	45,136
Conservation Cover	2	7,758	3	6,974	4	10,110	2	10,683	5	9,117	16	44,641
Conservation Crop Rotation	1	5,535	1	4,376	3	4,171	1	1,950	3	3,785	9	19,817
Contour Farming	2	709	2	1,450	1	3,992	1	6,606	1	6,864	7	19,622
Cover Crop	1	1,691	1	4,268	4	4,620	1	627	2	2,565	9	13,771
Cross Wind Trap Strips									1	16	1	16
Forage and Biomass Planting	2	578			1	623					3	1,201
Forage Harvest Management					1	623					1	623
Grassed Waterway	1	599	1	6							2	605
Heavy Use Area Protection			1	2	1	16	1	6	1	3	4	27
Integrated Pest Management	3	1,111	3	311	6	2,382	2	260	3	1,167	17	5,230
Irrigation System, Microirrigation	1	110	1	95					2	57	4	262
Irrigation System, Sprinkler	2	6,826	4	4,696	3	4,187	3	698	3	2,853	15	19,260
Irrigation Water Management	3	5,569	3	3,435	4	5,281	2	3,965	2	3,725	14	21,975
Nutrient Management	2	134	1	52	3	1,026			1	1,125	7	2,336
Prescribed Burning					1	158					1	158
Prescribed Grazing	6	16,229	10	29,143	9	24,905	12	61,185	11	50,809	48	182,271
Range Planting					1	95	3	1,307	2	590	6	1,992



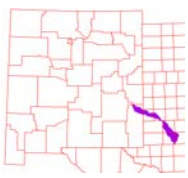
Residue and Tillage Management, No-Till/Strip Till/Direct Seed									2	972	2	972
Residue Management, Seasonal, No-Till/Strip Till	1	805									1	805
Residue Management, Seasonal	1	6,068	2	6,215	3	4,923	1	1,719	3	5,086	10	24,011
Restoration and Management of Rare and Declining Habitats									1	29	1	29
Surface Roughening	1	15,005	1	4,984	1	10,905	1	10,445	1	3,866	5	45,205
Tree/Shrub Establishment							1	726			1	726
Upland Wildlife Habitat Management	9	56,573	6	32,158	10	30,633	9	90,768	10	59,094	44	269,226
Wetland Enhancement									1	59	1	59
Wetland Wildlife Habitat Management							1	27			1	27
SUM (∑)	41	127,698	44	107,063	60	122,479	46	206,810	59	155,982	250	720,032

Table 8. 5 year Trends in Applied Conservation Practices. Reported in Acres.



Conservation Practice	2006		2007		2008		2009		2010		TOTAL	
	#	Feet	#	Feet	#	Feet	#	Feet	#	Feet	#	Feet
Fence	2	5,314			4	18,278	1	4,921	2	1,779	9	30,292
Firebreak							1	2,084			1	2,084
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic							1	125	1	13	2	138
Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic			2	263							2	263
Pipeline	1	514	2	8,796	3	3,602	1	726	1	571	8	14,209
Terrace	2	2,001	1	1,712	1	212			1	303	5	4,229
SUM (∑)	5	7,829	5	10,771	8	22,093	4	7,856	5	2,666	27	51,214

Table 9. 5 Year Trends in Location Specific Applied Conservation Practices. Reported in Feet if Linear (i.e. Fence)



Soil Resource Inventory[17]

The Sulphur Springs Draws Watershed has a number of certified National Cooperative Soil Survey (NCSS) inventories. Soils data is available from the NRCS Soil Data Mart at http://soildatamart.nrcs.usda.gov/ and/or the NRCS Geospatial Data Gateway at http://datagateway.nrcs.usda.gov .

National Cooperative Soil Survey:

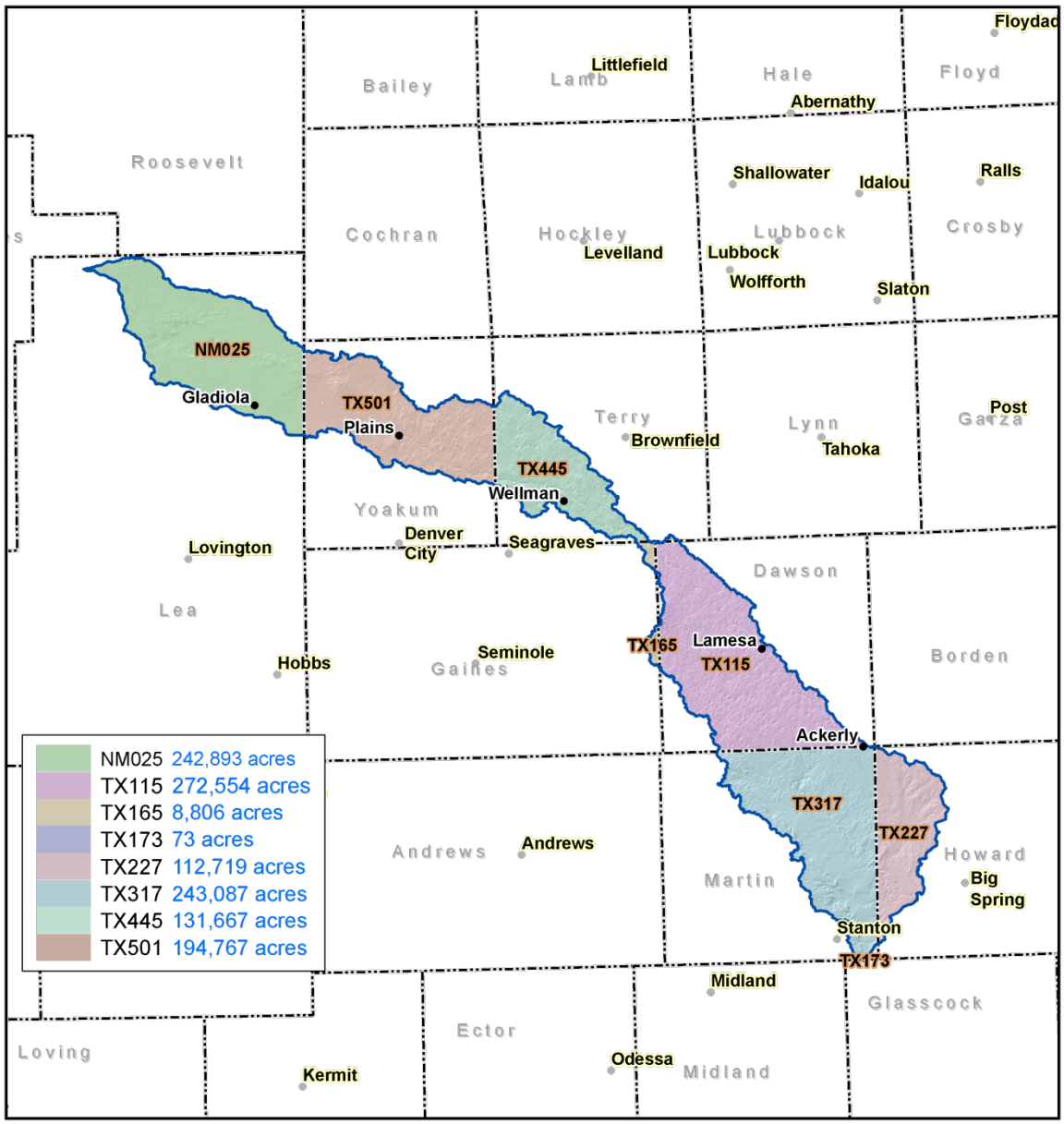
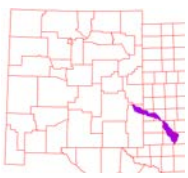


Figure 13. National Cooperative Soil Survey coverage of the Sulphur Springs Draw Watershed

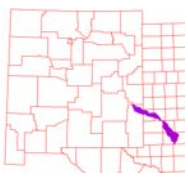


Soil Resource Inventory

In order to evaluate the susceptibility of erosion within the Sulphur Springs Draw Watershed, a model was developed using Soil Survey Geographic Database (SSURGO) information. The soil properties saturated hydraulic conductivity, soil loss tolerance, and wind erodibility group were used in conjunction with slope to assess soil map unit potential for erosion. Saturated hydraulic conductivity and slope are reported in SSURGO databases as interval/ratio data whereas wind erodibility and soil loss tolerance are ordinal data. Data transformations for the model are listed -

SSURGO Value	Nominal Description	Model Rank
Saturated Hydraulic Conductivity		
µm / s		
705.0 - 100.0	Very High	0
99.9 - 10.0	High	1
9.9 - 1.0	Moderately High	2
0.9 - 0.1	Moderately Low	3
0.09 - 0.01	Low	4
Slope %		
0 - 5		0
6 - 10		1
11 - 15		2
16 - 25		3
> 25		4
Soil Loss Tolerance		
5	High Tolerance For loss	0
4	↓	1
3	↓	2
2	↓	3
1	Low Tolerance For Loss	4
Wind Erodibility Group		
1	Very High	4
2	Very High	4
3	High	3
4	High	3
4L	High	3
5	Moderate	2
6	Moderate	2
7	Moderate	1
8	Slight	0

Table 10. Criteria Used for Soil Erosion Susceptibility Model.



Soil Resource Inventory

For each soil map unit (discrete delineation), the soil properties (named above) of the dominant soil type was used as the condition to be evaluated in the susceptibility to erosion model. Miscellaneous areas such as gravel pits, water, riverwash, etc. were excluded from evaluation. Possible range of values for each map unit are 0 – 16. Increasing values represent a higher susceptibility to soil erosion.

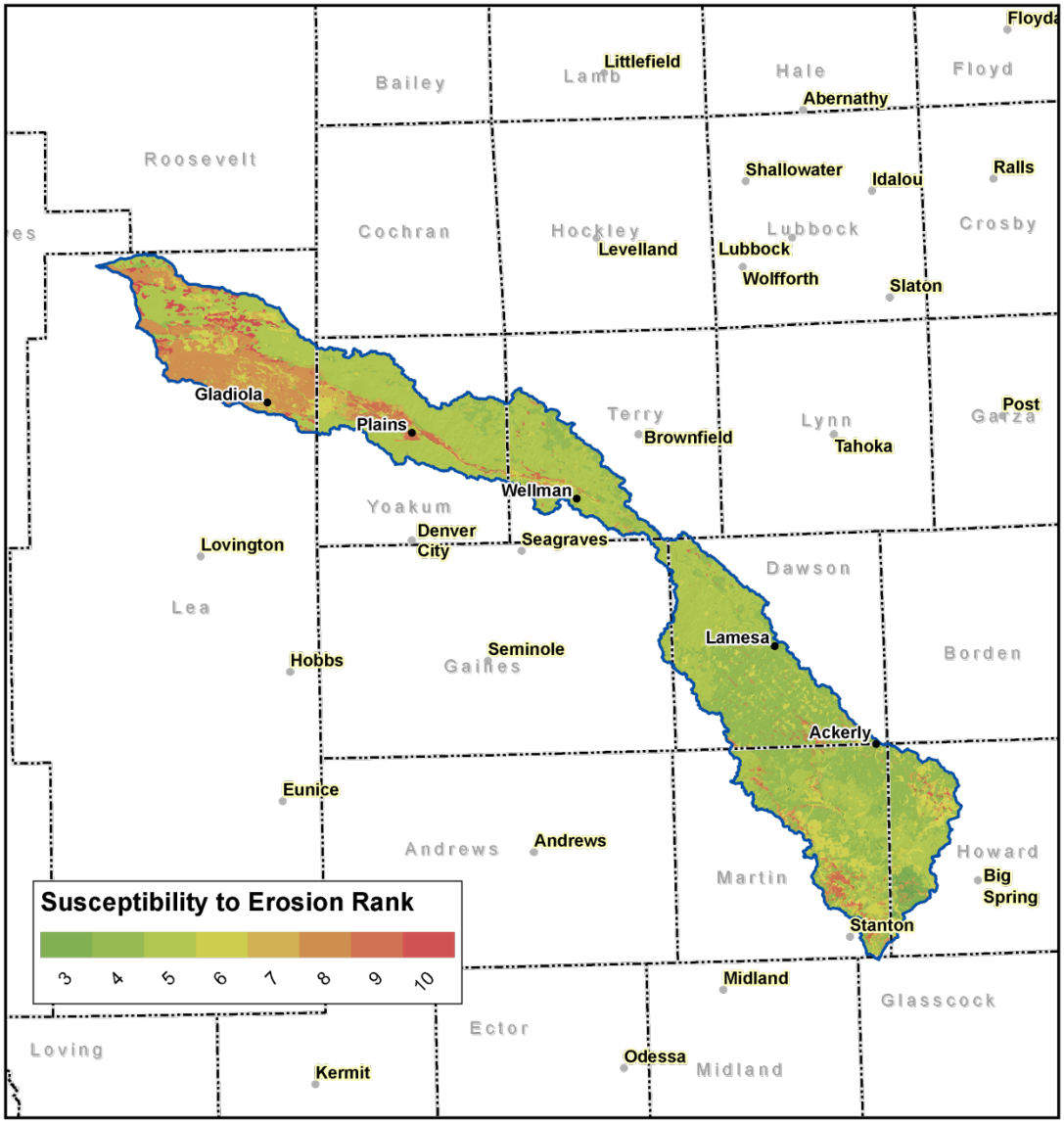
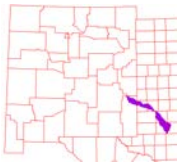


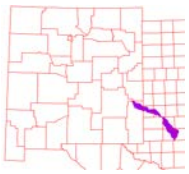
Figure 14. Sulphur Springs Draw Watershed Erosion Potential.



Soil Resource Inventory

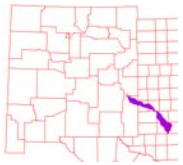
Rank	Acres
3	9,882
4	342,037
5	517,995
6	119,673
7	38,570
8	122,582
9	31,366
10	18,447
Sum(∑)	1,200,551

Table 11. Soil Erosion Potential Model Results.
A greater rank indicates greater potential for erosion.



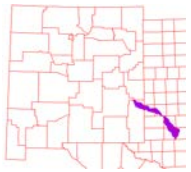
Socioeconomic Data [18]

COUNTY	Total population: Total	Total population: Urban	Total population: Rural	Total Pop,: Rural Farm	Total Pop.: Rural Nonfarm	Total population: Hispanic or Latino	Total population: White alone	Total population: Black or African American alone	Total population: American Indian and Alaska Native alone	Total population: Asian alone	Total population: Native Hawaiian and Other Pacific Islander alone	Total population: Some other race alone	Total population: Two or more races	Families: Median family income adj. 2009
Chaves	61,382	47,176	14,206	1,044	13,162	26,904	44,167	1,209	694	323	34	1,019	13,042	40,301
Eddy , NM	51,658	38,836	12,822	675	12,678	20,023	39,438	805	646	231	47	9,129	1,362	54,824
Lea, NM	55,511	43,665	11,846	377	11,469	22,010	37,263	2,426	551	216	24	13,217	1,814	46,236
Andrews, TX	13,004	10,569	2,435	75	2,360	5,202	10,024	214	115	92	3	2,183	373	53,405
Brewster, TX	8,866	5,906	2,960	37	2,923	3,867	7,189	108	75	33	5	1,192	264	50,975
Crane, TX	3,996	3,567	429	0	429	1,753	2,945	116	39	14	0	779	103	49,432
Ector, TX	121,123	109,859	4,264	550	3,714	51,306	89,257	5,583	1,002	775	49	21,051	3,406	53,034
Loving, TX	67	0	67	7	60	7	60	0	0	0	0	6	1	81,641
Midland, TX	116,009	100,757	15,252	226	15,026	33,676	89,702	8,101	741	1,074	36	14,124	2,231	62,792



COUNTY	Total population: Total	Total population: Urban	Total population: Rural	Total Pop,: Rural Farm	Total Pop.: Rural Nonfarm	Total population: Hispanic or Latino	Total population: White alone	Total population: Black or African American alone	Total population: American Indian and Alaska Native alone	Total population: Asian alone	Total population: Native Hawaiian and Other Pacific Islander alone	Total population: Some other race alone	Total population: Two or more races	Families: Median family income adj. 2009
Lea, NM	55,511	43,665	11,846	377	11,469	22,010	37,263	2,426	551	216	24	13,217	1,814	46,236
Borden, TX	729	0	729	272	457	87	660	1	2	0	0	46	20	51,786
Dawson, TX	14,985	12,290	2,695	360	2,335	7,222	10,859	1,297	45	37	0	2,482	265	40,099
Gaines, TX	14,467	5,997	8,470	443	8,027	5,175	11,614	330	110	22	1	2,050	340	53,185
Glasscock, TX	1,406	0	1,406	307	1,099	420	1,090	7	2	0	3	269	35	59,417
Howard, TX	33,627	26,347	7,280	334	6,946	12,597	26,950	1,390	197	199	4	4,180	707	47,236
Martin, TX	4,746	2,492	2,254	332	1,922	1,925	3,750	75	39	8	0	762	112	47,712
Terry, TX	12,761	9,211	3,550	381	3,169	5,626	9,769	638	67	28	3	1,822	434	42,870
Yoakum, TX	7,322	4,387	2,935	174	2,761	3,363	5,171	102	52	9	1	1,866	121	50,952

Table 12. Socioeconomic Data of the Counties in the Sulphur Springs Draw Watershed (2000).



References

1. Parameter-elevation Regressions on Independent Slopes Model (PRISM).PRISM is a unique knowledge-based system that uses point measurements of precipitation, temperature, and other climatic factors to produce continuous, digital grid estimates of monthly, yearly, and event-based climatic parameters. http://www.prism.oregonstate.edu/

2. Bureau of Land Management – New Mexico State Office. - http://www.blm.gov/nm/st/en/prog/more/geographic_sciences/spatial_data_metadata.html

3. UNITED STATES GEOLOGICAL SURVEY - National Land Cover Dataset. http://landcover.United States Geological Survey.gov/

4. Southwest Regional Gap Analysis Project (SWReGAP). http://earth.gis.usu.edu/swgap/

5. UNITED STATES GEOLOGICAL SURVEY – National Hydrography Dataset. http://nhd.United States Geological Survey.gov/

6. UNITED STATES GEOLOGICAL SURVEY - http://waterdata.usgs.gov/nwis/rt

7. State of New Mexico Environment Department - ftp://ftp.nmenv.state.nm.us/www/swqb/303d-305b/2010/USEPA-Approved303dList.pdf

8. United States Environmental Protection Agency - http://cfpub.epa.gov/surf/huc.cfm?huc_code=12080006

9. New Mexico - Office of the State Engineer- http://www.ose.state.nm.us/water_info_data.html

10. Texas Commission on Environmental Quality - http://www.tceq.texas.gov/

11. New Mexico Natural Heritage Program - http://nhnm.unm.edu/

12. Texas Parks & Wildlife Department - http://www.tpwd.state.tx.us/

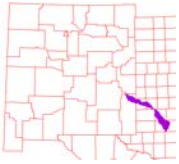
13. Southwest Exotic Plant Mapping Program - http://www.invasiveweeds.com/mapping/welcome.html

14. Texas Invasives - http://www.texasinvasives.org/

15. Natural Resources Conservation Service – National Coordinated Common Resource Area (CRA) Geographic Database http://soils.usda.gov/survey/geography/cra.html

16. Natural Resources Conservation Service – Performance Results System http://ias.sc.egov.usda.gov/PRSHOME/

17. Natural Resources Conservation Service – Soil Data Mart http://soildatamart.nrcs.usda.gov/



18. United States Census Bureau - http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml